

# Big data, AI and their Applications



Sensors of Connected and Automated Driving systems continuously produce Big traffic Data. This Big Data feeds the machine learning algorithms that drive the continuous improvement of AI-based CAD functions towards higher-level automation.

## Challenges

- What CAD data is most valuable to share? And How to handle the reducing validity of this data over time?
- How to overcome privacy and security barriers for sharing big data?
- How to handle different data sharing needs across various stakeholder types?
- How to select a training data set for validating specific AI CAD function?
- How to assess the completeness of the scenarios used in training and validating an AI function?
- How can we share the investments on developing AI functions?

## Research Needs

- Data sharing: Policy and regulations for data ownership and data sharing
- Privacy and security: Policy and ethics on the appropriate use of driving data
- Data storage and accessibility: A framework for storing and accessing shared driving data
- Assessment and validation of AI CAD functions: There is an urgent need for a harmonised framework
- Regulations ethics and insurance: Requirement for a framework adapted to the use of AI functionality

## Statements

- Advancement of CAD is essentially software development and AI training.
- The value of CAD data depends on the stakeholder perspective.
- We need an agreement on how to test a certain AI CAD function, i.g. using benchmark data sets
- Performance criteria for an CAD function will not change if it is conventionally built or with AI

## Expected Impact

- Promoting/accelerating development of CAD
- Closer cooperation between stakeholders
- Increase users trust and acceptance for CAD
- Ease procedure toward new standard traffic regulation for CAD

